

the uses of the different species, and the geographical distribution is given for each kind.

The nomenclature used is that of the second edition of Britton and Brown's "Illustrated Flora," but the sequence of families is that adopted in the work of Clements, Rosendahl and Butters in their "Minnesota Trees and Shrubs," published in 1912. This is the "Besseyan System" which differs from the Engler and Prantl sequence in following the gymnosperms by the orders Ranales, Geraniales, Malvales, Rosales, Celastrales and so on. One criticism that can be justly levelled at a purely popular hand-book such as this are the names *Cassiatae*, *Fabatae* and the like, which are categories readily understandable by the trained botanist, but will be unfamiliar to the greater part of the readers to whom the book is addressed.

As a workable pocket manual of trees, the book is sure to have a wide range of usefulness.

N. T.

Warner, C. H., *Formaldehyde as an Oxidation Product of Chlorophyll Extracts*, Proc. Roy. Soc. B. 87: 378-385, 1914, reports a series of interesting experiments demonstrating the production of an aldehyde when light acts on a film of chlorophyll (prepared by allowing an alcoholic or ethereal chlorophyll extract to evaporate on glass plates). The production of aldehyde goes on parallel with a bleaching of the chlorophyll, is dependent on the presence of oxygen, but independent of the presence of carbon dioxide. Along with the aldehyde a volatile substance, capable of liberating iodine from a potassium iodide solution, is produced.

In the same number of the Proceedings, Wager, H., *The Action of Light on Chlorophyll*, Proc. Roy. Soc. B. 87: 386-407, describes a more varied series of experiments covering essentially the same ground. Warner is inclined to consider hydrogen peroxide the active oxidizing agent, produced in the presence of oxygen and light, which attacks the chlorophyll; Wager argues that probably some other peroxide is concerned.

This work again shows that the original experiments with chlorophyll films as performed by Usher and Priestley did not

demonstrate, as these authors had concluded, the synthesis of carbon dioxide and water.

Warner and Wager both cautiously raise the question whether in green leaves a photo-decomposition of chlorophyll gives rise to formaldehyde which is then polymerized into sugars, instead of there being a direct synthesis of carbon dioxide and water into formaldehyde.

It is to be noted that a number of the experiments described seem suitable as laboratory exercises and lecture demonstrations.

W. G. M.

### NEWS ITEMS.

The Board of Managers and the Women's Auxiliary of the New York Botanical Garden held a reception and spring inspection of the grounds, buildings and collections on the afternoon of Thursday, May 7, from three until six o'clock. Tea was served in the museum building at 5.20 P.M. About 250 guests motored through the grounds and speeches were made by Dr. W. Gilman Thompson, one of the committee of the board of managers, and by the director, Dr. N. L. Britton.

"After a lapse of over twenty-one years a botanic garden at the Cape is once again an established fact. It is described by the *Kew Bulletin* as 'thoroughly worthy of a United South Africa.' The choice of the Kirstenbosch estate as the site for the National Botanic Garden was a particularly happy one, and there can be no doubt that the selection of this site for the purpose would have met with the approval of Cecil Rhodes himself. The existence of so suitable a site for the garden as is this portion of the Rhodes estate would, however, have been of little value but for the farsightedness of General Botha and his government, in consequence of which the scheme has passed from the region of proposition and discussion into the realm of fact. The control of the garden is to be exercised by a board of five trustees, of whom three are nominated by the Government, one by the Corporation of Capetown, and one by the Botanical Society. The